

- 10 -

As used herein the terms "*pesticide*" or "*pesticidal*" refer to activity resulting in a high mortality rate in a pest population or activity that interferes with and/or disrupts normal growth, development and functioning of pests.

As used herein the terms "*termiticide*" or "*termiticidal*" refer to pesticidal activity  
5 resulting in a high mortality rate in a termite population or activity that interferes with and/or disrupts normal growth, development and functioning of termites


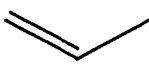
The term "*antifeedant*" as used herein refers to a compound that reduces the level of normal feeding by an organism.

The term "*repellent*" as used herein refers to a compound or substance that results  
10 in a change in direction of movement of an organism away from that compound or substance.

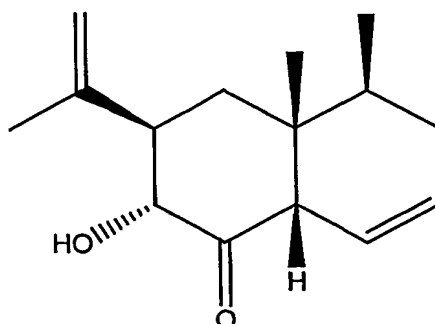
As used herein, the term "*pest*" is used in its broadest context and includes insects, arachnids, helminths, molluscs and microbes such as bacteria, fungi, viruses and protozoa.

The term "*wood associated pest*" refers to pests which bore into wood or timber  
15 and/or consume, damage or weaken wood, timber and/or wood or timber based products. Such pests include but are not limited to, termites, wood borer beetles, millipedes, isopods, weevils, moths and their larvae. For example, the larva of any one of numerous species of boring beetles, such as slaters, longicorn beetles, buprestidans, and certain weevils, the larva of any one of various species of lepidopterous insects, especially of the clearwing  
20 moths, the peach-tree borer and the goat moths, the larva of various species of hymenopterous insects of the tribe Urocerata, any one of several bivalve shells that bore into wood, such as the teredos, and species of Xylophaga and any one of several species of small Crustacea, such as the Limnoria, and the boring amphipod (*Chelura terebrans*).

Preferred compounds of formula (I) having pesticidal activity are those where Y is

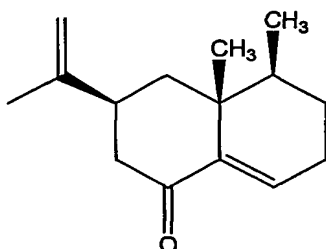
25 H and  represents . Particularly preferred compounds of formula (I) or formula (II) having pesticidal activity are those represented by formula (III):

- 14 -

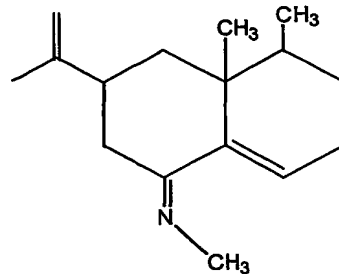
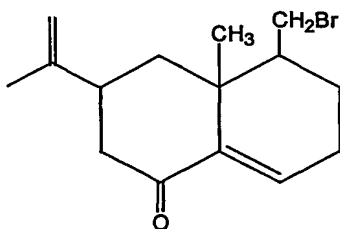
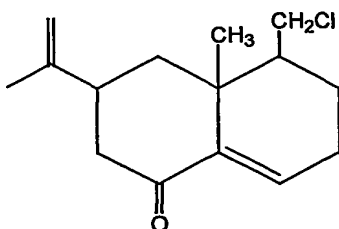
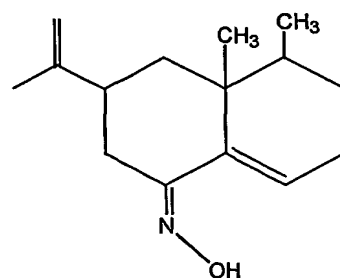
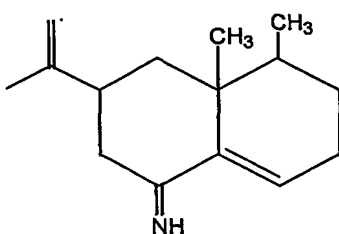
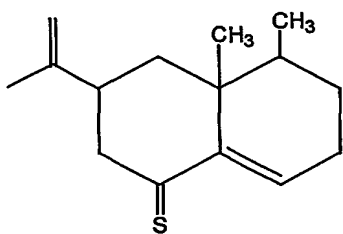


By way of example, compounds of formula (III) encompassed by the present invention include, but are not restricted to, compounds having the following structural formulae:

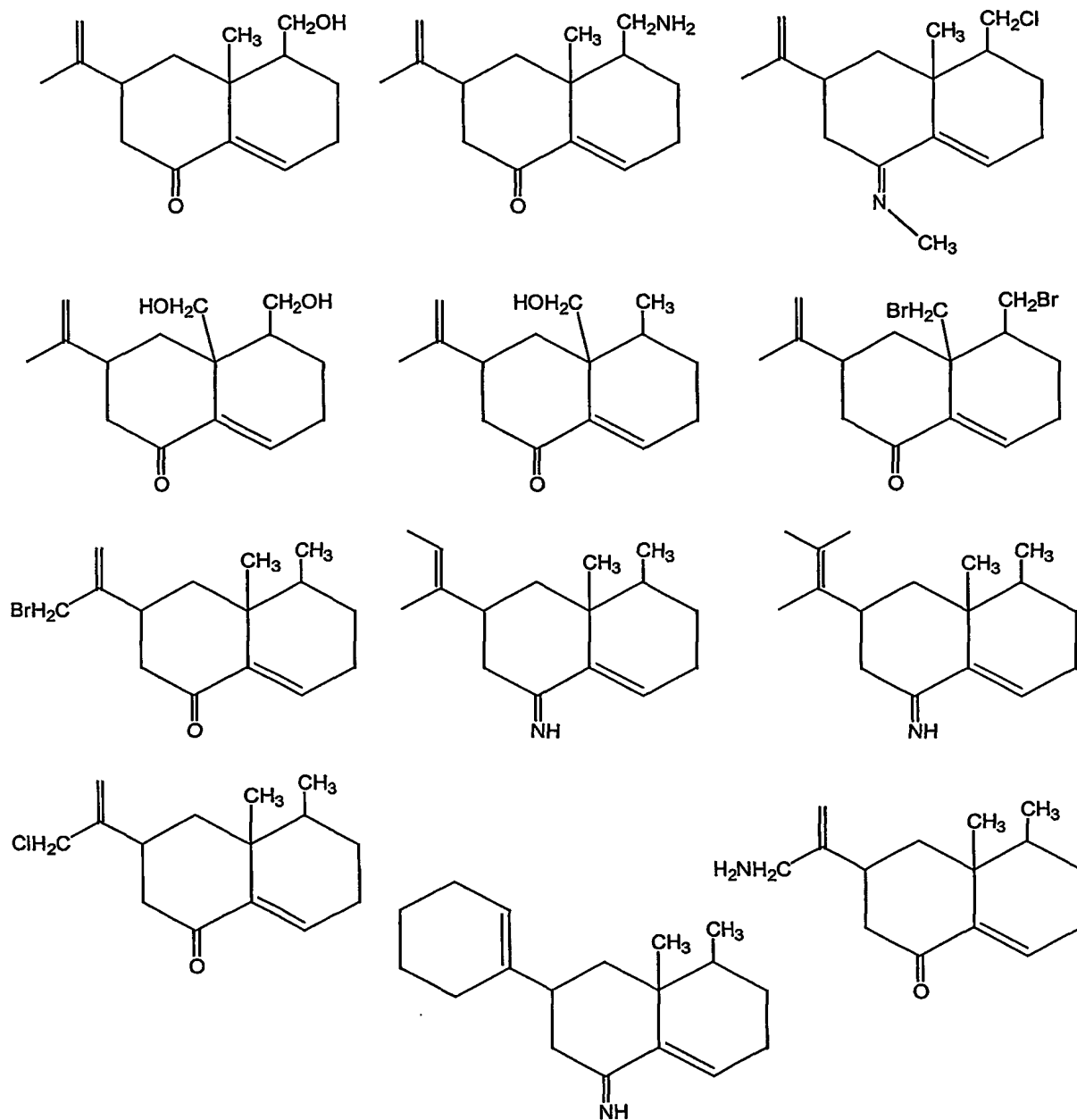
5



eremophilone



- 16 -

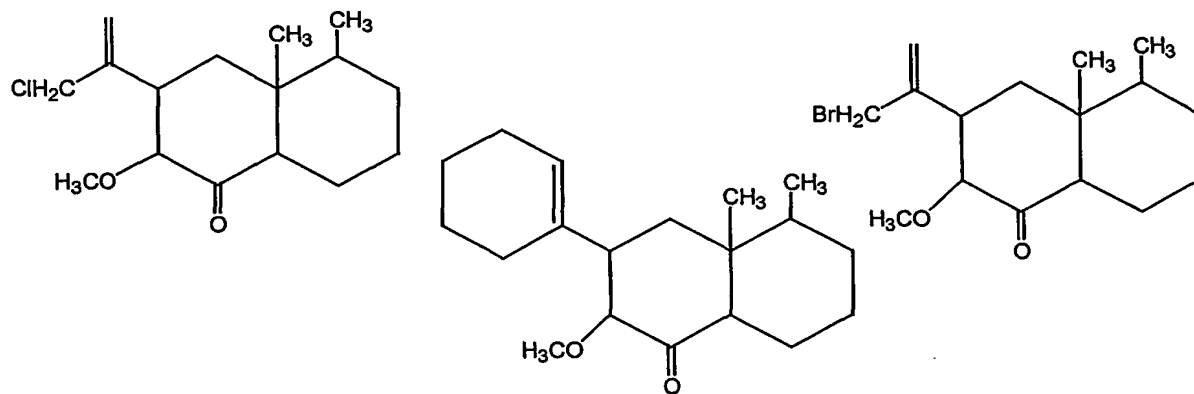


5

By way of example, compounds of formula (IV) encompassed by the present invention include, but are not restricted to, compounds having the following structural formulae:

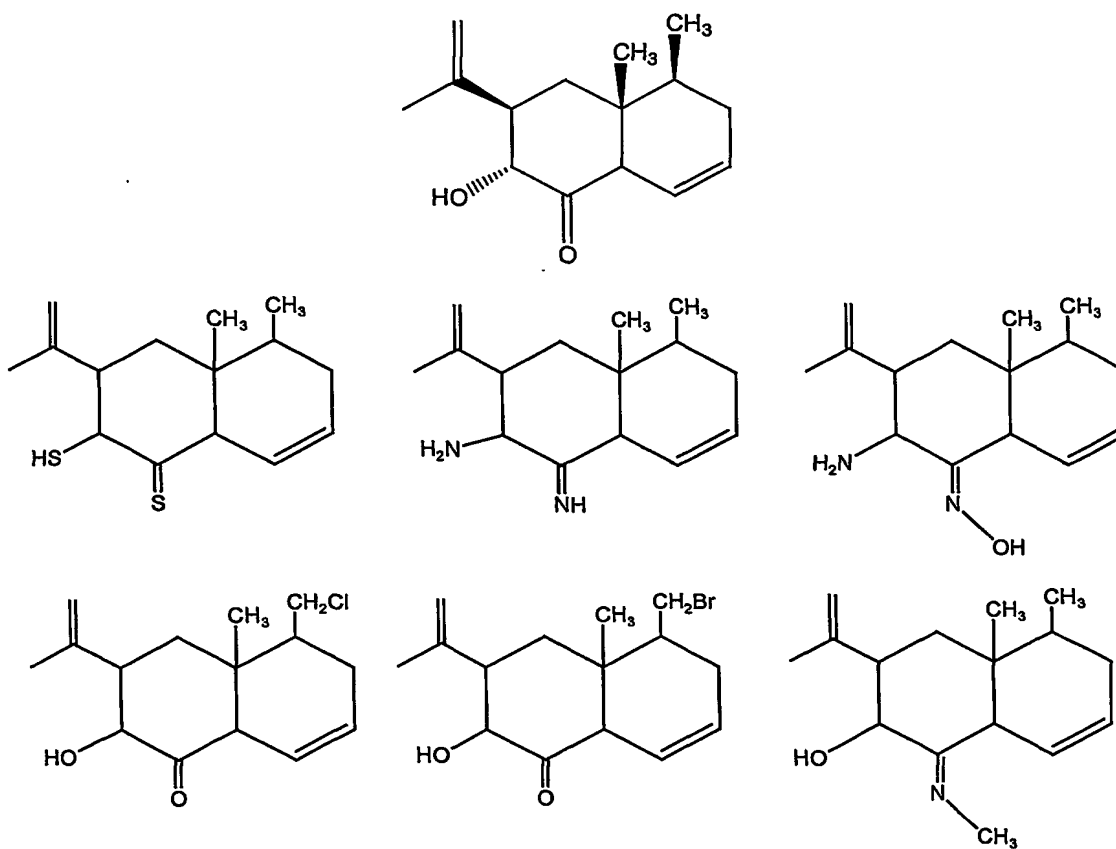
10

- 19 -



By way of example, compounds of formula (V) encompassed by the present invention include, but are not restricted to, compounds having the following structural

5 formulae:



particle board or laminates. For such applications, the concentration of the compound of formula (I) in the composition should be sufficient to provide an effective amount of the compound in or on the timber.

5 Wood or timber may also be impregnated with the compounds of formula (I) using well know procedures such as, for example, pressure treatments such as the Lowery empty cell process and full cell process, vacuum treatment, hot and cold bath treatment, thermal treatment, and cold-soak treatment.

10 Furthermore the compounds of formula (I) and their compositions may be applied to pest shields and used in pest-proofing systems. Pest shields include metal shields incorporated during building of the structure to protect areas particularly susceptible to wood associated pest attack, such as window sills, wooden steps, porches and verandahs and lattice work. For example, suitable termite proofing systems include those described in US patent No. 6,397,518.

15 Certain compounds of formula (I) are novel and these form a further aspect of the present invention.

The terms “comprise”, “comprises” and “comprising” and the like refer, unless the context requires otherwise, to the inclusion of a stated step or element or group of steps or elements but not the exclusion of any other step or element or group of steps or elements.

20 The compositions and methods of the present invention may be applied to pests including, but not limited to, insects, arachnids, helminths, molluscs and microbes such as bacteria, fungi, viruses and protozoa. In one preferred embodiment, the pests are selected from wood associated pests. Examples of suitable insects that fall within the scope of the pests in the present invention include:

25 (a) the termites (Isoptera) which may be controlled with compounds of formula (I) and compositions containing compounds of formula (I) include subterranean termites, for example, *Calotermes flavicollis*, *Coptotermes spp* such as *Coptotermes acinaciformis*, *Leucotermes flavipes*, *Macrotermes subhyalinus*, *Nasutitermes spp* such as *Nasutitermes walkeri*, *Odontotermes formosanus*, *Reticulitermes lucifugus*, *Termes natalensis*, *Mastotermes spp.*,

41. A method according to claim 26 wherein the composition comprises an extract containing at least one compound of formula (I) obtained from a volatile oil bearing plant from the Myoporaceae family.

42. A method according to claim 41 wherein the extract is obtained from *Eremophila*,  
5 *Myoporum* and *Bonita* genera.

43. A method according to claim 42 wherein the extract is obtained from *E. alternifolia*,  
*E. duttonii*, *E. Freelingii*, *E. longifolia*, *E. cuneifolia*, *E. dalayana*, *E. abietina*, *E. caerulea*,  
*E. virgata*, *E. interstans*, *E. flaccida*, *E. leucophylla*, *E. metallicorum*, *E. georgei*, *E. subteritifolia*.

10 44. A method according to claim 26 wherein the pest-controlling effective amount is a  
pesticidally effective amount.

45. A method according to claim 26 wherein the pest-controlling effective amount is a  
pest-repelling effective amount.

46. A method according to claim 26 wherein the pest-controlling effective amount is a  
15 antifeedant effective amount.

47. A method according to claim 26 wherein the pests are selected from the group  
consisting of insects, arachnids, helminths, molluscs and microbes.

48. A method according to claim 26 wherein the pests are selected from the group  
consisting of termites, earwigs, cockroaches and wood borer beetles and their larvae.

20 49. A method according to claim 26 wherein the pests are wood associated pests.

50. A method according to claim 49 wherein the wood associated pests are selected from  
the group consisting of termites and wood borer beetles.

51. A method according to claim 50 wherein the wood associated pests are termites.

52. A method according to claim 26 wherein pests are exposed to the pest-controlling  
25 effective amount of a compound of formula (I) or a composition comprising at least one

- 67 -

compound of formula (I) by applying the compound or composition to a site of infestation, a potential site of infestation, a habitat of the pest or a potential habitat of the pest.

53. A method according to claim 52 wherein the compound or composition is applied to a surface or impregnated into a material or article of manufacture.

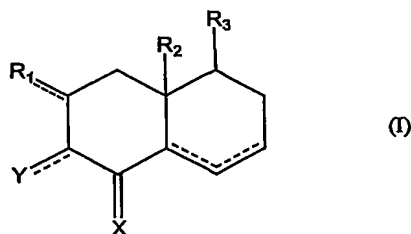
5 54. A method according to claim 53 wherein the compound or composition is applied to a surface by spraying, coating or painting the surface.

55. A method according to claim 54 wherein the surface is a soil surface, timber, buildings, wooden articles of manufacture or a physical barrier.

56. A method according to claim 55 wherein the material or article of manufacture is soil,  
10 timber, timber or wooden products or buildings or parts of buildings.

57. A method according to claim 52 wherein the compound or composition is applied in a band or furrow around a site of infestation or potential infestation or is mixed with a layer of soil at a site of infestation or a potential site of infestation.

58. A material or article of manufacture that is coated or impregnated with at least one  
15 compound of formula (I) or a tautomer thereof or with a composition containing at least one compound of formula (I) or a tautomer thereof:



wherein:

X is selected from the group consisting of O, S or N-R<sub>4</sub>;

20 when ----- is a single bond attached to Y, Y is selected from the group consisting of H, [C(R<sub>7</sub>)<sub>2</sub>]<sub>n</sub>halo, [C(R<sub>7</sub>)<sub>2</sub>]<sub>n</sub>OR<sub>5</sub>, [C(R<sub>7</sub>)<sub>2</sub>]<sub>n</sub>SR<sub>5</sub>, [C(R<sub>7</sub>)<sub>2</sub>]<sub>n</sub>(C=O)R<sub>6</sub>, [C(R<sub>7</sub>)<sub>2</sub>]<sub>n</sub>(C=S)R<sub>6</sub>, [C(R<sub>7</sub>)<sub>2</sub>]<sub>n</sub>N(R<sub>4</sub>)<sub>2</sub>, [C(R<sub>7</sub>)<sub>2</sub>]<sub>n</sub>(C=NR<sub>4</sub>)R<sub>6</sub>, [C(R<sub>7</sub>)<sub>2</sub>]<sub>n</sub>NO<sub>2</sub> and [C(R<sub>7</sub>)<sub>2</sub>]<sub>n</sub>NR<sub>4</sub>OR<sub>8</sub>;

when ----- is a double bond attached to Y, Y is O;

when ----- is a single bond attached to R<sub>1</sub>, R<sub>1</sub> is selected from the group consisting of H, OH, SH, C<sub>1</sub>-C<sub>10</sub> alkyl, C<sub>2</sub>-C<sub>10</sub> alkenyl, C<sub>2</sub>-C<sub>10</sub> alkynyl, C<sub>6</sub>-C<sub>10</sub> aryl, C<sub>7</sub>-C<sub>12</sub> arylalkyl, C<sub>8</sub>-C<sub>13</sub> arylalkenyl, C<sub>3</sub>-C<sub>6</sub> cycloalkyl, C<sub>3</sub>-C<sub>6</sub> cycloalkenyl, C<sub>4</sub>-C<sub>10</sub> cycloalkylalkyl, C<sub>4</sub>-C<sub>10</sub> cycloalkenylalkyl, C<sub>3</sub>-C<sub>10</sub> heterocyclyl, C<sub>4</sub>-C<sub>12</sub> heterocyclylalkyl, C<sub>5</sub>-C<sub>13</sub> heterocyclylalkenyl, C<sub>1</sub>-C<sub>10</sub> alkoxy, C<sub>2</sub>-C<sub>10</sub> alkenyloxy, C<sub>1</sub>-C<sub>10</sub> alkylthio, C<sub>2</sub>-C<sub>10</sub> alkenylthio, [C(R<sub>7</sub>)<sub>2</sub>]<sub>n</sub>halo, [C(R<sub>7</sub>)<sub>2</sub>]<sub>n</sub>(C=O)R<sub>6</sub>, [C(R<sub>7</sub>)<sub>2</sub>]<sub>n</sub>(C=S)R<sub>6</sub>, [C(R<sub>7</sub>)<sub>2</sub>]<sub>n</sub>N(R<sub>4</sub>)<sub>2</sub>, [C(R<sub>7</sub>)<sub>2</sub>]<sub>n</sub>(C=NR<sub>4</sub>)R<sub>6</sub>, [C(R<sub>7</sub>)<sub>2</sub>]<sub>n</sub>NO<sub>2</sub> and [C(R<sub>7</sub>)<sub>2</sub>]<sub>n</sub>NR<sub>4</sub>OR<sub>8</sub>;

when ----- is a double bond attached to R<sub>1</sub>, R<sub>1</sub> is CR<sub>1a</sub>R<sub>1b</sub> wherein R<sub>1a</sub> and R<sub>1b</sub> are independently selected from C<sub>1</sub>-C<sub>10</sub>alkyl;

R<sub>2</sub> and R<sub>3</sub> are independently selected from the group consisting of H, OH, SH, C<sub>1</sub>-C<sub>10</sub> alkyl, C<sub>2</sub>-C<sub>10</sub> alkenyl, C<sub>2</sub>-C<sub>10</sub> alkynyl, C<sub>6</sub>-C<sub>10</sub> aryl, C<sub>7</sub>-C<sub>12</sub> arylalkyl, C<sub>8</sub>-C<sub>13</sub> arylalkenyl, C<sub>3</sub>-C<sub>6</sub> cycloalkyl, C<sub>3</sub>-C<sub>6</sub> cycloalkenyl, C<sub>4</sub>-C<sub>10</sub> cycloalkylalkyl, C<sub>4</sub>-C<sub>10</sub> cycloalkenylalkyl, C<sub>3</sub>-C<sub>10</sub> heterocyclyl, C<sub>4</sub>-C<sub>12</sub> heterocyclylalkyl, C<sub>5</sub>-C<sub>13</sub> heterocyclylalkenyl, C<sub>1</sub>-C<sub>10</sub> alkoxy, C<sub>2</sub>-C<sub>10</sub> alkenyloxy, C<sub>1</sub>-C<sub>10</sub> alkylthio, C<sub>2</sub>-C<sub>10</sub> alkenylthio, [C(R<sub>7</sub>)<sub>2</sub>]<sub>n</sub>halo, [C(R<sub>7</sub>)<sub>2</sub>]<sub>n</sub>(C=O)R<sub>6</sub>, [C(R<sub>7</sub>)<sub>2</sub>]<sub>n</sub>(C=S)R<sub>6</sub>, [C(R<sub>7</sub>)<sub>2</sub>]<sub>n</sub>N(R<sub>4</sub>)<sub>2</sub>, [C(R<sub>7</sub>)<sub>2</sub>]<sub>n</sub>(C=NR<sub>4</sub>)R<sub>6</sub>, [C(R<sub>7</sub>)<sub>2</sub>]<sub>n</sub>NO<sub>2</sub> and [C(R<sub>7</sub>)<sub>2</sub>]<sub>n</sub>NR<sub>4</sub>OR<sub>8</sub>;

each R<sub>4</sub> is independently selected from the group consisting of H, OH, C<sub>1</sub>-C<sub>10</sub> alkyl, C<sub>2</sub>-C<sub>10</sub> alkenyl, C<sub>6</sub>-C<sub>10</sub> aryl, C<sub>7</sub>-C<sub>12</sub> arylalkyl, C<sub>8</sub>-C<sub>13</sub> arylalkenyl, C<sub>3</sub>-C<sub>6</sub> cycloalkyl, C<sub>3</sub>-C<sub>6</sub> cycloalkenyl, C<sub>4</sub>-C<sub>10</sub> cycloalkylalkyl, C<sub>3</sub>-C<sub>10</sub> heterocyclyl, C<sub>4</sub>-C<sub>12</sub> heterocyclylalkyl, C<sub>5</sub>-C<sub>13</sub> heterocyclylalkenyl, C<sub>1</sub>-C<sub>10</sub> alkoxy and C<sub>2</sub>-C<sub>10</sub> alkenyloxy;

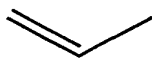
R<sub>5</sub> is selected from the group consisting of H, C<sub>1</sub>-C<sub>10</sub> alkyl, C<sub>2</sub>-C<sub>10</sub> alkenyl, C<sub>6</sub>-C<sub>10</sub> aryl, C<sub>7</sub>-C<sub>12</sub> arylalkyl, C<sub>8</sub>-C<sub>13</sub> arylalkenyl, C<sub>3</sub>-C<sub>6</sub> cycloalkyl, C<sub>3</sub>-C<sub>6</sub> cycloalkenyl, C<sub>4</sub>-C<sub>10</sub> cycloalkylalkyl, C<sub>3</sub>-C<sub>10</sub> heterocyclyl, C<sub>4</sub>-C<sub>12</sub> heterocyclylalkyl, C<sub>5</sub>-C<sub>13</sub> heterocyclylalkenyl, (C=O)R<sub>6</sub>, PO<sub>3</sub>R<sub>8</sub>, SO<sub>3</sub>R<sub>8</sub> and SO<sub>2</sub>R<sub>8</sub>;

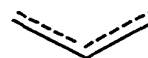
R<sub>6</sub> is selected from the group consisting of H, OH, C<sub>1</sub>-C<sub>10</sub> alkoxy, C<sub>1</sub>-C<sub>10</sub> alkyl, C<sub>2</sub>-C<sub>10</sub> alkenyloxy, C<sub>2</sub>-C<sub>10</sub> alkenyl, C<sub>6</sub>-C<sub>10</sub> aryl, C<sub>6</sub>-C<sub>10</sub> aryloxy, C<sub>3</sub>-C<sub>6</sub> cycloalkyl, C<sub>3</sub>-C<sub>6</sub> cycloalkenyl, C<sub>3</sub>-C<sub>6</sub> cycloalkyloxy, C<sub>3</sub>-C<sub>6</sub> cycloalkenyloxy, C<sub>3</sub>-C<sub>10</sub> heterocyclyl, C<sub>3</sub>-C<sub>10</sub> heterocycliloxy, C<sub>1</sub>-C<sub>10</sub> alkylthio, C<sub>1</sub>-C<sub>10</sub> alkenylthio, C<sub>6</sub>-C<sub>10</sub> arylthio, C<sub>3</sub>-C<sub>6</sub>



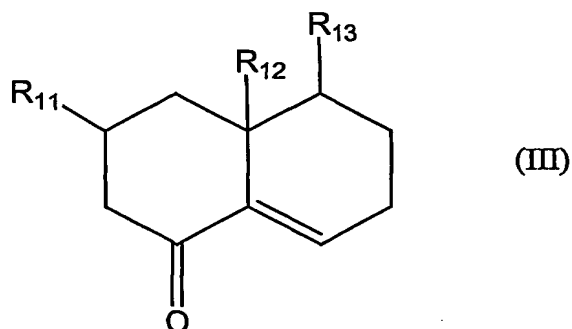
wherein each alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl and heterocyclyl group is optionally substituted.

60. A material or article of manufacture according to claim 58, wherein

represents  in the compound of formula (I).



5 61. A material or article of manufacture according to claim 58, wherein at least one compound of formula (I) is a compound of formula (III):




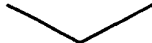
10 wherein R<sub>11</sub> is selected from the group consisting of C<sub>2</sub>-C<sub>10</sub> alkenyl, C<sub>7</sub>-C<sub>12</sub> arylalkyl, C<sub>6</sub>-C<sub>12</sub> heteroarylalkyl and C<sub>2</sub>-C<sub>10</sub> alkenyloxy wherein each C<sub>2</sub>-C<sub>10</sub> alkenyl or C<sub>2</sub>-C<sub>10</sub> alkenyloxy is optionally substituted with 1 to 3 halo, hydroxy, thiol or nitro groups; and

R<sub>12</sub> and R<sub>13</sub> are independently selected from the group consisting of H, C<sub>1</sub>-C<sub>10</sub> alkyl, C<sub>2</sub>-C<sub>10</sub> alkenyl, C<sub>2</sub>-C<sub>10</sub> alkynyl, C<sub>6</sub>-C<sub>10</sub> aryl, C<sub>7</sub>-C<sub>12</sub> arylalkyl, C<sub>3</sub>-C<sub>10</sub> cycloalkyl, C<sub>5</sub>-C<sub>10</sub> heteroaryl, C<sub>6</sub>-C<sub>12</sub> heteroarylalkyl and C<sub>1</sub>-C<sub>10</sub> alkoxy, wherein each C<sub>1</sub>-C<sub>10</sub> alkyl and C<sub>1</sub>-C<sub>10</sub> alkoxy is optionally substituted with 1 to 3 halo, hydroxy, thiol or nitro groups.

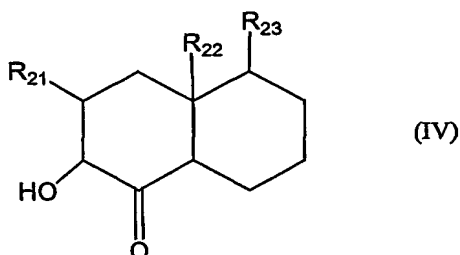
- 72 -

62. A material or article of manufacture according to claim 61, wherein  $R_{11}$  is  $C_2$ - $C_{10}$  alkenyl optionally substituted with a hydroxy, nitro or thiol group or 1 to 3 halo groups, and  $R_{12}$  and  $R_{13}$  are independently selected from  $C_1$ - $C_{10}$  alkyl optionally substituted with a hydroxy, nitro or thiol group or 1 to 3 halo groups.

5 63. A material or article of manufacture according to claim 58 wherein at least one compound of formula (I) is eremophilone.

64. A material or article of manufacture according to claim 58 wherein  represents  in the compound of formula (I).

65. A material or article of manufacture according to claim 58 wherein at least one  
10 compound of formula (I) is a compound of formula (IV):



wherein  $R_{21}$ ,  $R_{22}$  and  $R_{23}$  are independently selected from the group consisting of H, OH, SH,  $C_1$ - $C_{10}$  alkyl,  $C_2$ - $C_{10}$  alkenyl,  $C_2$ - $C_{10}$  alkynyl,  $C_6$ - $C_{10}$  aryl,  $C_7$ - $C_{12}$  arylalkyl,  $C_8$ - $C_{13}$  arylalkenyl,  $C_3$ - $C_6$  cycloalkyl,  $C_3$ - $C_6$  cycloalkenyl,  $C_4$ - $C_{10}$  cycloalkylalkyl,  $C_4$ - $C_{10}$   
15 cycloalkenylalkyl,  $C_3$ - $C_{10}$  heterocyclyl,  $C_4$ - $C_{12}$  heterocyclylalkyl,  $C_5$ - $C_{13}$  heterocyclylalkenyl,  $C_1$ - $C_{10}$  alkoxy,  $C_2$ - $C_{10}$  alkenyloxy,  $C_1$ - $C_{10}$  alkylthio,  $C_2$ - $C_{10}$  alkenylthio,  $[C(R_7)_2]_n$ halo,  $[C(R_7)_2]_n(C=O)R_6$ ,  $[C(R_7)_2]_n(C=S)R_6$ ,  $[C(R_7)_2]_nN(R_4)_2$ ,  $[C(R_7)_2]_n(C=NR_4)R_6$ ,  $[C(R_7)_2]_nNO_2$  and  $[C(R_7)_2]_nNR_4OR_8$ ;

each  $R_4$  is independently selected from the group consisting of H, OH,  $C_1$ - $C_{10}$  alkyl,  $C_2$ - $C_{10}$   
20 alkenyl,  $C_6$ - $C_{10}$  aryl,  $C_7$ - $C_{12}$  arylalkyl,  $C_8$ - $C_{13}$  arylalkenyl,  $C_3$ - $C_6$  cycloalkyl,  $C_3$ - $C_6$  cycloalkenyl,  $C_4$ - $C_{10}$  cycloalkylalkyl,  $C_3$ - $C_{10}$  heterocyclyl,  $C_4$ - $C_{12}$  heterocyclylalkyl,  $C_5$ - $C_{13}$  heterocyclylalkenyl,  $C_1$ - $C_{10}$  alkoxy and  $C_2$ - $C_{10}$  alkenyloxy;

$R_6$  is selected from the group consisting of H, OH,  $C_1$ - $C_{10}$  alkoxy,  $C_1$ - $C_{10}$  alkyl,  $C_2$ - $C_{10}$

- 73 -

alkenyloxy, C<sub>2</sub>-C<sub>10</sub> alkenyl, C<sub>6</sub>-C<sub>10</sub> aryl, C<sub>6</sub>-C<sub>10</sub> aryloxy, C<sub>3</sub>-C<sub>6</sub> cycloalkyl, C<sub>3</sub>-C<sub>6</sub> cycloalkenyl, C<sub>3</sub>-C<sub>6</sub> cycloalkyloxy, C<sub>3</sub>-C<sub>6</sub> cycloalkenyloxy, C<sub>3</sub>-C<sub>10</sub> heterocyclyl, C<sub>3</sub>-C<sub>10</sub> heterocyclyloxy, C<sub>1</sub>-C<sub>10</sub> alkylthio, C<sub>1</sub>-C<sub>10</sub> alkenylthio, C<sub>6</sub>-C<sub>10</sub> arylthio, C<sub>3</sub>-C<sub>6</sub> cycloalkylthio, and C<sub>3</sub>-C<sub>10</sub> heterocyclylthio;

- 5 R<sub>7</sub> is selected from the group consisting of H, halogen, OR<sub>5</sub>, SR<sub>5</sub>, N(R<sub>4</sub>)<sub>2</sub>, (C=O)R<sub>6</sub>, (C=S)R<sub>6</sub>, C<sub>1</sub>-C<sub>10</sub> alkyl, C<sub>2</sub>-C<sub>10</sub> alkenyl, C<sub>6</sub>-C<sub>10</sub> aryl, C<sub>3</sub>-C<sub>10</sub> heterocyclyl, C<sub>3</sub>-C<sub>6</sub> cycloalkyl, C<sub>7</sub>-C<sub>12</sub> arylalkyl, C<sub>4</sub>-C<sub>12</sub> heterocyclylalkyl, C<sub>4</sub>-C<sub>10</sub> cycloalkylalkyl, C<sub>8</sub>-C<sub>13</sub> arylalkenyl, C<sub>5</sub>-C<sub>13</sub> heterocyclylalkenyl, and NO<sub>2</sub>;

- R<sub>8</sub> is selected from the group consisting of H, C<sub>1</sub>-C<sub>10</sub> alkyl, C<sub>2</sub>-C<sub>10</sub> alkenyl, C<sub>6</sub>-C<sub>10</sub> aryl, C<sub>7</sub>-C<sub>12</sub> arylalkyl, C<sub>8</sub>-C<sub>13</sub> arylalkenyl, C<sub>3</sub>-C<sub>6</sub> cycloalkyl, C<sub>3</sub>-C<sub>6</sub> cycloalkenyl, C<sub>4</sub>-C<sub>10</sub> cycloalkylalkyl, C<sub>5</sub>-C<sub>10</sub> cycloalkylalkenyl, C<sub>3</sub>-C<sub>10</sub> heterocyclyl, C<sub>4</sub>-C<sub>12</sub> heterocyclylalkyl and C<sub>5</sub>-C<sub>13</sub> heterocyclylalkenyl; and
- 10

n is 0 or an integer selected from 1 to 5;

- wherein each alkyl, alkenyl, alkynyl, cycloalkyl, cycloalkenyl, aryl and heterocyclyl group
- 15 is optionally substituted.

66. A material or article of manufacture according to claim 65 wherein R<sub>21</sub> is selected from the group consisting of C<sub>2</sub>-C<sub>10</sub> alkenyl, C<sub>7</sub>-C<sub>12</sub> arylalkyl, C<sub>6</sub>-C<sub>12</sub> heteroarylalkyl and C<sub>2</sub>-C<sub>10</sub> alkenyloxy wherein each C<sub>2</sub>-C<sub>10</sub> alkenyl or C<sub>2</sub>-C<sub>10</sub> alkenyloxy is optionally substituted with 1 to 3 halo, hydroxy, thiol or nitro groups; and

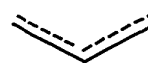
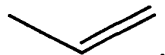
- 20 R<sub>22</sub> and R<sub>23</sub> are independently selected from the group consisting of H, C<sub>1</sub>-C<sub>10</sub> alkyl, C<sub>2</sub>-C<sub>10</sub> alkenyl, C<sub>2</sub>-C<sub>10</sub> alkynyl, C<sub>6</sub>-C<sub>10</sub> aryl, C<sub>7</sub>-C<sub>12</sub> arylalkyl, C<sub>3</sub>-C<sub>10</sub> cycloalkyl, C<sub>5</sub>-C<sub>10</sub> heteroaryl, C<sub>6</sub>-C<sub>12</sub> heteroarylalkyl and C<sub>1</sub>-C<sub>10</sub> alkoxy, wherein each C<sub>1</sub>-C<sub>10</sub> alkyl and C<sub>1</sub>-C<sub>10</sub> alkoxy is optionally substituted with 1 to 3 halo, hydroxy, thiol or nitro groups.

67. A material or article of manufacture according to claim 66 wherein R<sub>21</sub> is C<sub>2</sub>-C<sub>10</sub> alkenyl, optionally substituted with a hydroxy, thiol or nitro group or 1 to 3 halo groups, and R<sub>22</sub> and R<sub>23</sub> are independently selected from C<sub>1</sub>-C<sub>10</sub> alkyl, optionally substituted with a hydroxy, thiol or nitro group or 1 to 3 halo groups.
- 25

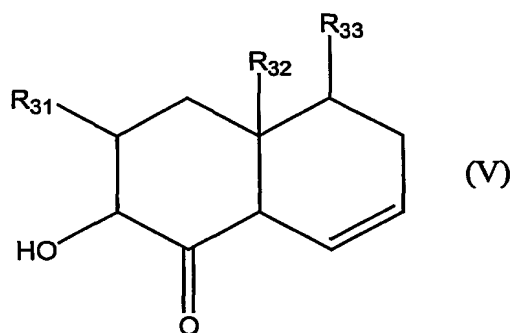
68. A material or article of manufacture according to claim 58 wherein at least one compound of formula (I) is 8-hydroxy-1(10) dihydroeremophilone.

69. A material or article of manufacture according to claim 58 wherein

represents



5 70. A material or article of manufacture according to claim 58 comprising at least one compound of formula (V):



10 wherein  $R_{31}$  is selected from the group consisting of  $C_2$ - $C_{10}$  alkenyl,  $C_7$ - $C_{12}$  arylalkyl,  $C_6$ - $C_{12}$  heteroarylalkyl and  $C_2$ - $C_{10}$  alkenyloxy wherein each  $C_2$ - $C_{10}$  alkenyl or  $C_2$ - $C_{10}$  alkenyloxy is optionally substituted with 1 to 3 halo, hydroxy, thiol or nitro groups; and

$R_{32}$  and  $R_{33}$  are independently selected from the group consisting of H,  $C_1$ - $C_{10}$  alkyl,  $C_2$ - $C_{10}$  alkenyl,  $C_2$ - $C_{10}$  alkynyl,  $C_6$ - $C_{10}$  aryl,  $C_7$ - $C_{12}$  arylalkyl,  $C_3$ - $C_{10}$  cycloalkyl,  $C_5$ - $C_{10}$  heteroaryl,  $C_6$ - $C_{12}$  heteroarylalkyl and  $C_1$ - $C_{10}$  alkoxy, wherein each  $C_1$ - $C_{10}$  alkyl and  $C_1$ - $C_{10}$  alkoxy is optionally substituted with 1 to 3 halo, hydroxy, thiol or nitro groups.

15 71. A material or article of manufacture according to claim 70 wherein  $R_{31}$  is  $C_2$ - $C_{10}$  alkenyl optionally substituted with a hydroxy, nitro or thiol group or 1 to 3 halo groups, and  $R_{32}$  and  $R_{33}$  are independently selected from  $C_1$ - $C_{10}$  alkyl optionally substituted with a hydroxy, nitro or thiol group or 1 to 3 halo groups.

20 72. A material or article of manufacture according to claim 58 wherein at least one compound of formula (I) is 8-hydroxyeremophila-1,11-dienone.

- 75 -

73. A material or article of manufacture according to claim 58 wherein the composition comprises an extract containing at least one compound of formula (I) obtained from a volatile oil bearing plant from the Myoporaceae family.

74. A material or article of manufacture according to claim 73 wherein the extract is  
5 obtained from *Eremophila*, *Myoporum* and *Bonita* genera.

75. A material or article of manufacture according to claim 74 wherein the extract is obtained from *E. alternifolia*, *E. duttonii*, *E. Freelingii*, *E. longifolia*, *E. cuneifolia*, *E. dalayana*, *E. abietina*, *E. caerulea*, *E. virgata*, *E. interstans*, *E. flaccida*, *E. leucophylla*, *E. metallicorum*, *E. georgei*, *E. subteritifolia*.

10 76. A material or article of manufacture according to claim 58 which is selected from the group consisting of a pest shield, pest barrier, soil or a timber product.

77. A coating comprising a composition according to claim 1.

78. A coating comprising a composition according to claim 20.

79. A method of combating an already existing wood associated pest infestation  
15 comprising applying a composition according to claim 1 or claim 20 or a coating of claim 77 or claim 78 to wood associated pest affected surface.